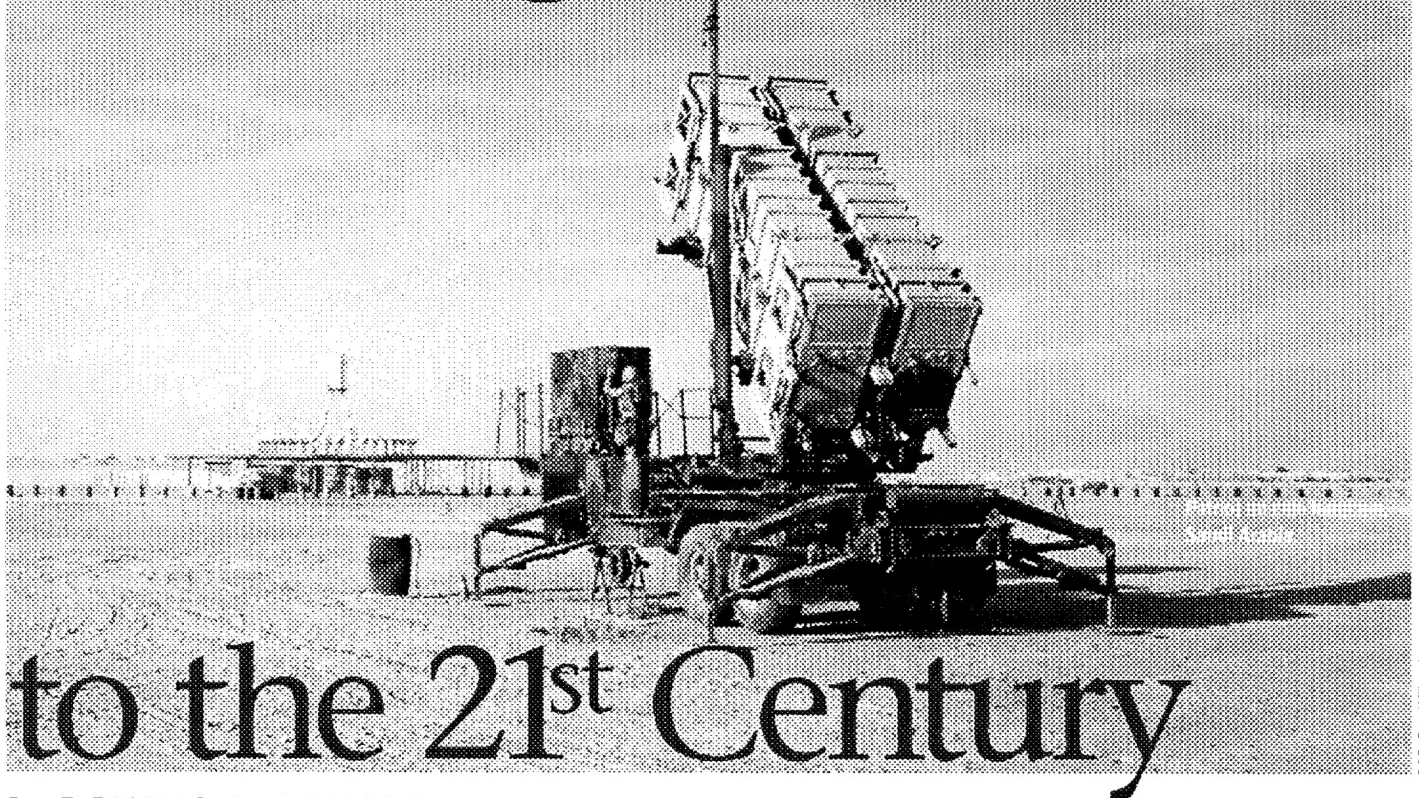


# Leaping Ahead



## to the 21<sup>st</sup> Century

By DENNIS J. REIMER

**T**he strategy advanced in the recent Quadrennial Defense Review (QDR) reflects the world as it is, not as we may wish it was. Its strategy is captured by the terms *shape-respond-prepare*. First, it recognizes that we have a unique chance to shape the international environment. Second, we must have the ability to respond to a full spectrum of crises wherever national security interests are at risk around the world. Last, we must prepare for the future. This may be the most difficult part of the strategy because it calls for discipline and courage to manage risk, balancing the needs of today against the requirements of tomorrow.

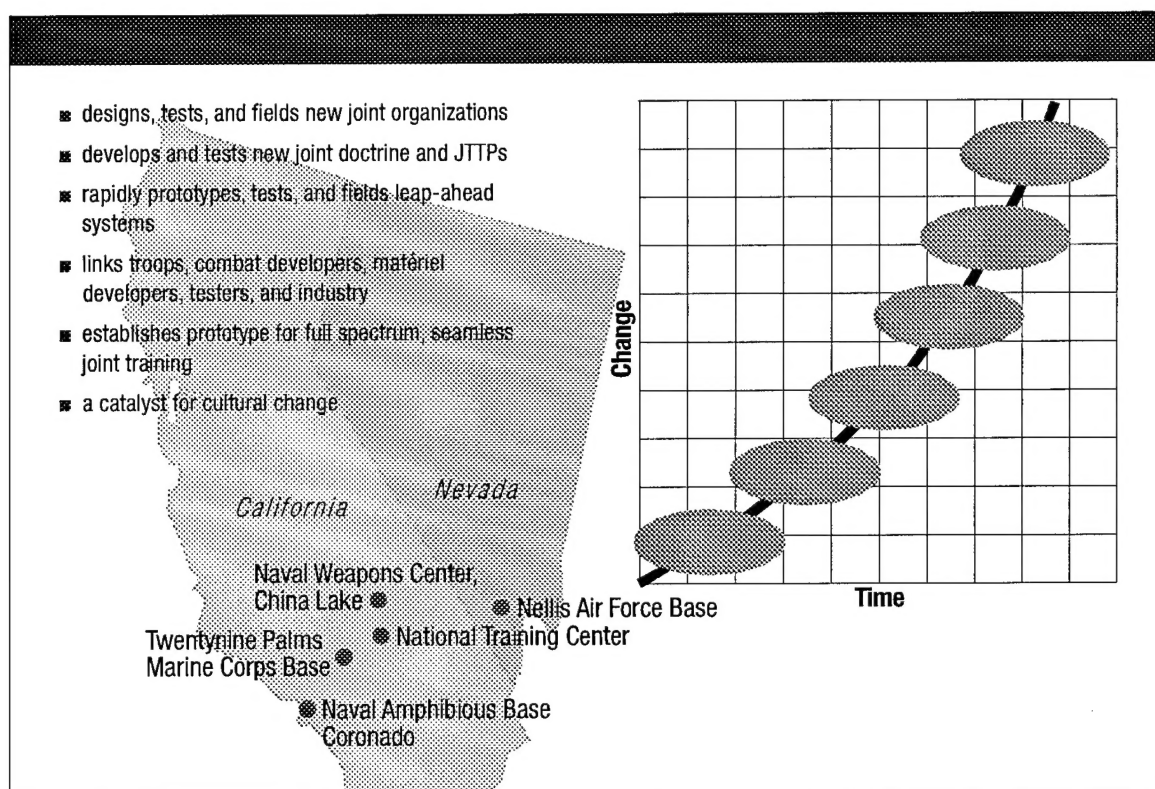
While shaping and responding to a changing world we must prepare joint forces to conduct traditional and new missions with innovative means. To anticipate the future we must overlook

the constraints imposed today on technology and military capabilities and focus on 2020. Managing risks, making investments, and looking forward are keys to retaining the initiative.

Our analysis of the future also indicates that the United States needs a capability identified as *strategic preemption*, either preventing or halting a crisis before it gets out of control. This will involve speed and agility to analyze contingencies and the capability to respond with coherent and effective joint forces. The competence needed to deal with such challenges must be matched by the physical and mental agility of forces that can react anywhere in the world and conduct a full range of military operations in combination with other government agencies and allies.

The Pentagon has accepted that diminishing manpower and resources will further drive the requirement for joint organizations in the future. These constrained resources, the greater need for jointness, and a credible strategy bring us to a

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strategic crossroads. Should we stay on a Cold War glide path or exploit the strategic window of opportunity to leap into the next century?

### Creep or Leap?

Joint forces must be designed from the ground up as a total package to meet the diverse and robust requirements of the future. This demands a complete integration of joint doctrine, training, deployment, and equipment. These forces must be smaller, more mobile, and harder hitting. They must exploit the potentiality of information age technology on all levels of war. Headquarters must be continually streamlined and modified to meet new situations. Conflicts in the 21<sup>st</sup> century will require major advances in mobility and information processing. The Nation can no longer afford the ponderous forces and constraints of the past.

Our forces must be more strategically mobile, capable of moving quickly anywhere around the world. They must be strategically, operationally, and tactically agile, flexible, and versatile by design. The versatility to handle complex missions and to pivot from one to another is essential. A characteristic of missions in the next century will be the ability to quickly transition between the use of lethal and nonlethal means.

To achieve essential strategic and tactical mobility and flexibility, our forces will also have to be logistically unencumbered. No service can afford the level of combat equipment and supplies that were pre-positioned during the Cold War. As we become more mobile and capable, logistical systems must also be agile. The key enablers, both now and in the future, are information and technological solutions that place the right logistics in the right place at the right time.

The issues that prepare the Army for tomorrow are in many ways the same as those facing the other services and DOD as whole. In the last two years the Army has expended a lot of energy mapping a path forward. It appears that during this "strategic opportunity" both the Army and the United States are at an historic crossroads. We know where we must go.

Recent experience has indicated how to leap ahead. Last spring we conducted an advanced warfighting experiment (AWE) at the National Training Center—the premier Army combat training center—to explore the potential of information technologies on the tactical level. This experiment provided us with a glimpse of the future. That was exciting because the Army realized a quantum leap in force effectiveness by leveraging information technologies with current equipment. But it was disconcerting because we learned



Fire direction center,  
National Training  
Center.

115th Mobile Public Affairs Detachment (David Burde)

first hand the magnitude of testing, training, and integration needed to increase our effectiveness to the full potential of 21<sup>st</sup> century capabilities. The result was that AWE revealed a unique opportunity to make the transformation from an industrial age force to information age force with unparalleled capabilities—if we do it right.

The principles of this transformation are clear. All our forces—land, sea, and air—must be balanced, appropriate, and relevant. They must be strategy-driven; that is the only way to develop and maintain coherent forces with reduced resources. The national military strategy should also be the gauge by which forces are measured.

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Most importantly, senior leaders must break the service-parochial paradigms of the past and align defense resources with national strategy.

With continued pressure on resources and global demands for U.S. forces, future capabilities must be linked to a strategy and built from a coherent and integrated plan.

While we must “train the way we fight,” both fighting and training will be joint in the next century. The Army learned long ago that tough training up front means readiness and saving lives in the long run. This basic truth applies to joint forces as well. A force of such diverse capabilities and complexity will necessitate rigorous experimentation and training to meet the demands of team cohesion, high operational tempo, and operational agility.

To chart our future, three areas must be changed. First, a process of joint experimentation and integration must be established. Second, our defense modernization strategy must be realigned to meet a new security strategy. And third, the revolution in business affairs must be exploited by the Department of Defense.

### Joint Experimentation and Integration

It is generally agreed that our forces will almost always fight jointly in the future. A look at operations conducted since 1989 indicates that 25 out of 27 were joint. The road ahead starts with the concept of a standing JTF to accomplish truly joint experimentation and integration. Forming it may not be as difficult as it seems.

Joint experimentation and integration offers a mechanism to promote ideas, develop tactics, techniques, and procedures, and produce the doctrine and systems for the joint force. A standing experimental JTF would also realize the concepts and capabilities advanced in *Joint Vision 2010*. The term *standing* in this context means not ad hoc or temporary. The JTF charter would not call for developing capabilities just because they were needed or absent in the past; rather it would build capabilities for future challenges as consistent with rapid technological advancements and strategy.

Although establishing a standing JTF would be a bold step, the risks could be mitigated by an incremental and layered approach. The task force could add capabilities gradually as concepts and interservice procedures evolve. Initial work could begin with existing assets and joint doctrine development. The pace of evolution would be a function of how quickly complementary service capabilities are integrated. The size and composition of the JTF headquarters would be based on two compelling needs: experimentation and integration. Further requirements for deployability and warfighting could be added as the organization matures.

One way of initiating this process would be to link training and experimentation centers in the southwestern United States functioning in real time through a virtual environment with existing simulation technologies. This could be done with a standing JTF headquarters and elements from each service. A standing JTF is the only efficient way to conceptualize and develop genuine joint forces. Through simulations, a JTF could create a synthetic battlefield to design and test doctrine and organizations. That would begin to harness complementary core service competencies.

M-1 during advanced warfighting experiment.



115th Mobile Public Affairs Detachment (David Burke)



59th Signal Company, Combat Camera (Larry Aaron)

Synthetic aperture radar terminal.

**we have learned that exciting things can happen when troops have the freedom to experiment**

Joint experimentation would initially exploit service battle labs by electronically connecting facilities at Fort Irwin, Twentynine Palms, Nellis Air

Force Base, Coronado, and China Lake in a consortium. A JTF also could develop and test operational concepts and doctrine. Concepts that spring from the

classroom and simulations must be validated before investing in equipment.

Next, simulation and integration could stimulate exploration of virtual weapon prototypes and then model systems exactly as they would be fought in a joint organization. As such virtual

weapons function in a virtual battle both their performance and cost effectiveness can be evaluated. Interface designs and interoperability tests can reveal how well future equipment will meet multiple service requirements. Users of virtual prototypes will provide feedback on design inputs. Designs could be tested for warfighting utility and streamlined acquisition by rapid convergence of virtual prototyping and hands-on experimentation by soldiers, sailors, marines, and airmen.

The second level of experimentation and integration would include joint field exercises and maneuvers. A JTF would experiment with the best ideas on the ground to see if they really work in the hands of troops. Experimentation would not be constrained to doctrine but would also include the development of tactics, techniques, and procedures at echelons down to the individual soldier. We have learned that exciting things can happen when troops have the freedom to experiment. This leap-ahead approach offers the services tremendous opportunities.

As the fidelity of future simulation and integration increases, the task force would begin to see the continued overlap and merger of collective training domains: virtual, constructive, and

live. Tomorrow's simulation will witness the continued reduction of live training as simulation provides a better return on investment. But in some cases troops could remain in tactical operations centers, control centers, cockpits, and command information centers and train with actual units in the field. The capability to mix and match the various training domains and units will be limitless.

One of the most exciting aspects of this proposal is that such an organization, if properly designed, could become a cultural catalyst for both intra- and interservice changes. Certainly it would assist our leaders in removing institutional barriers that preclude the synergistic capabilities our forces will require in the 21<sup>st</sup> century.

### Defense Modernization

The second major requirement in seizing this strategic opportunity for change is to realign our defense modernization strategy. This is a way to ensure that service modernization programs are complementary—a genuine joint, integrated modernization strategy. It requires that we refocus modernization investments. Current capabilities, with some enhancements, are adequate to take us through 2010. We must refocus our scientific and technology base on legitimate joint warfighting requirements—pulling forward the technology that will be needed for 2020.

Once such a JTF exists questions about which weapon systems and technologies should be developed become almost inseparable from the capabilities and efficiencies required by a new joint force. If we are indeed at a strategic crossroads, then it is time to recapitalize and explore untested joint capabilities and ensure that they are coherent with national military strategy.

As technological breakthroughs occur and potential enemies are outmatched by our military innovations, it is prudent to focus our modernization strategy on improving equipment through software upgrades and technical insertions. Until the next generation of procurement programs is tested and integrated, new starts of major weapon systems should be carefully evaluated in light of recommendations emerging from an experimental JTF.

Refocusing modernization in concert with an experimental task force will stimulate change in thinking, planning, organizing, and training within the Armed Forces. Such a JTF will become the centerpiece for change and catapult us ahead in joint military capability.

### Revolution in Business Affairs

A revolution in military affairs and the strategy of shaping-responding-preparing cannot be realized on an integrated joint level without a simultaneous revolution in business affairs. We must not overlook changes in innovation and productivity that are revolutionizing American industry.

A new partnership with industry and Congress is required to fully develop the forces of the future. Even in light of the tremendous downsizing since the Cold War, we still need to streamline our headquarters, reduce infrastructure, and offer incentives to make management more efficient. DOD must learn from the corporate world's ability to rapidly adjust to shifts in the marketplace and make that part of military culture.

The experimentation and integration task force is an important link between a revolutionary modernization strategy and allocating resources. As technological changes accelerate, the defense establishment is not well equipped to analyze joint resource allocation. The Cold War approach of large homogenous modernizing will quickly make U.S. forces irrelevant as technology continues to impact equipment capabilities and organizations. The unprecedented pace of change will make it impossible for the military of tomorrow to maintain coherence without an institutionalized process to help make investments to maximize scarce resources. The linchpin and focus for such decisions will be a fully functioning integrated JTF.

The Quadrennial Defense Review reveals a strategic window that provides the opportunity to fundamentally reshape our forces for the next century. It requires that the defense community as a whole embrace an alternative way of leaping ahead. To make that path a reality, we must initiate the concept of joint experimentation and integration. We must also identify those synergies found in service modernization plans and transform them into a coherent defense modernization plan while adopting those efficiencies found in the industrial sector.

We are all pressed by the demands of day-to-day operations, but we must embrace reform. Our leaders must adopt the new strategy of shaping-responding-preparing and ensure that *JV 2010* becomes a reality. We do not need a smaller version of the Cold War force; the future will require a force designed for a changing world. That is the essence of the QDR process.

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